

( )

**(Vicia)**

\*

( // : // : )

( ) x= ( ) x= ( ) x=

B

Stebbins

*Vicia faba*

A

A

B

( )

Stebbins

A<sub>2</sub> A<sub>1</sub>

CRD

%

% /

Ward

/

*V. villosa*

*V. faba*

*Vervilia*

( ) ( )

:(Vicia)

( )

( *Vicia sp*)

n= x=      n= x=  
 .( )  
    *Vicia*  
    (     )  
    (     )  
    .( )  
    *V.villosa*  
 DNA  
    .( )  
    ( n= x= )     *V.faba*     *Vicia*     .( )  
    )     (M     Faba     *Vicilla*     *Vicia*  
    M     (NOR)     *V. Bithynica*     *V. faba*     *Vicia*  
    .( )     .( )     Narbonensis  
    ( n= x= )     *V.villosa*  
    .( )  
    *V.narborensis*  
    ( n= x= )  
    ( )  
    *V.sativa*     *V.villosa*     *V.narborensis*  
    .( )  
*Vicia*     n=     *Vicia*  
    n= x=     n= x=  
    %     .( )  
    %     x=  
    %     x=  
    %     x=

(*Vicia*) :

(DRL)

(A<sub>2</sub>) (A<sub>1</sub>)  
( ) (%TF) ( )

( ) Levan ( ) (Section)

(CRD)

%

Ward %

EXCEL JMP SAS /

( % / ) )

Micromesure

( ) % ( % ) (

( )

(X= )

Digital Color ) x  
(SSC, DC18P Video Camera, Olympus BH-2

Bisht

*V. faba* ( )

Micromesure

( )

Stebbins

(TL)

, *V. sativa*, B

(LA) (%of set)

*V. villosa* (7241), *V. persica*, *V. michauxii*, *V. variabilis*,

(SA) (%LA)

A *V. narbonensis*, *V. cracca* *V. seraiocarpa*

(Arm ratio:L/S) (%SA)

A

(CI)

*V. villosa* ( ) *V. faba*

*V.* (VRC)

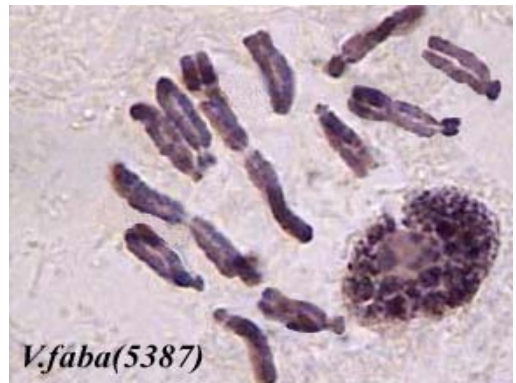
DRL A<sub>2</sub> *faba*  
( )

( ) Stebbins

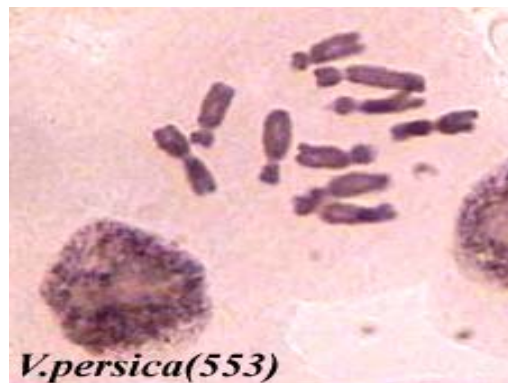
B



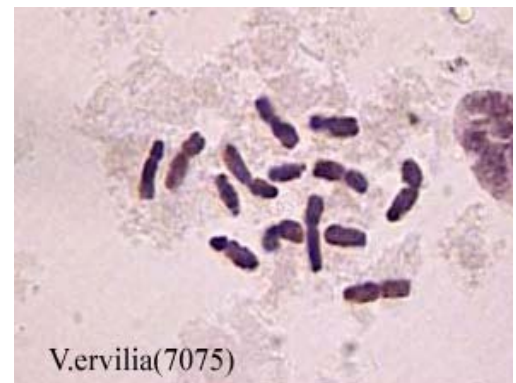
*V.narborensis*(2042)



*V.faba*(5387)



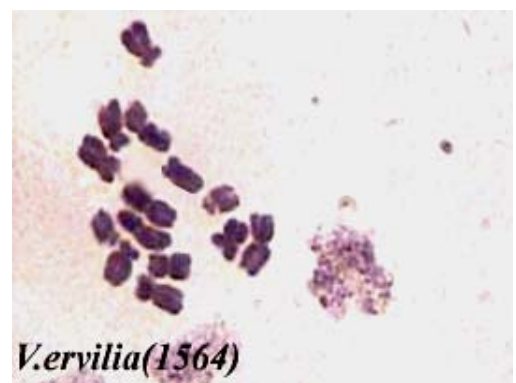
*V.persica*(553)



*V.ervilia*(7075)



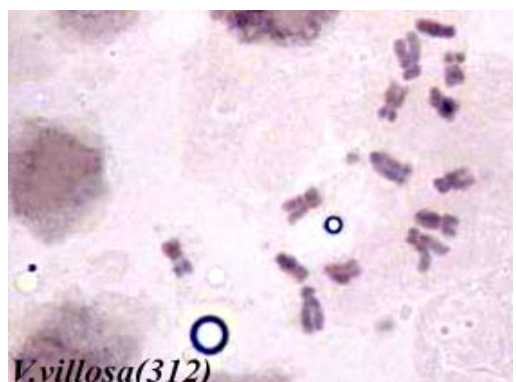
*V.cracca*(1238)



*V.ervilia*(1564)



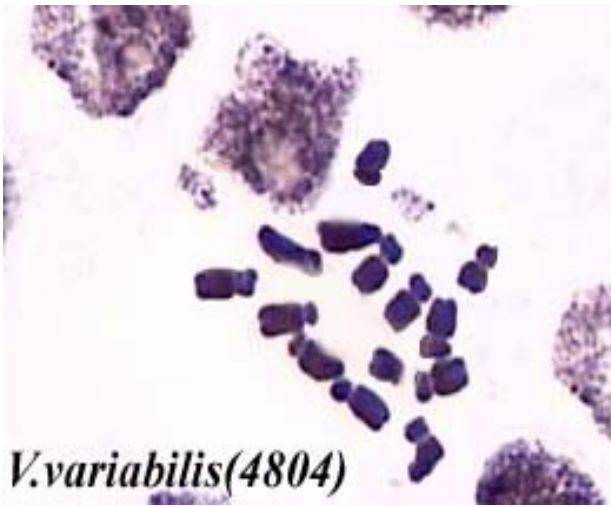
*V.michauxii*(4810)



*V.villosa*(312)

(*Vicia*)

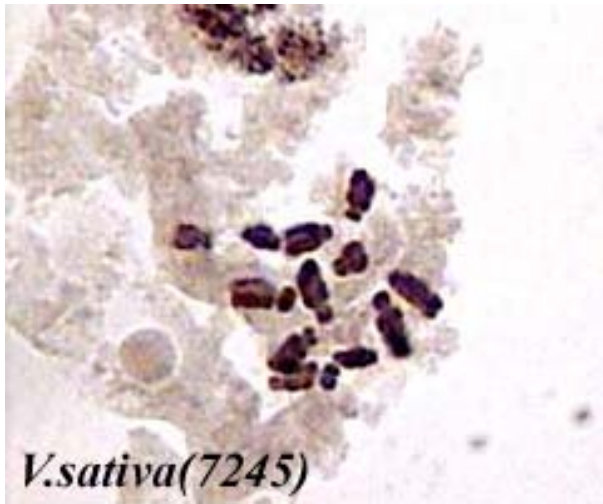
:



*V.variabilis*(4804)



*V.michauxii*(4998)



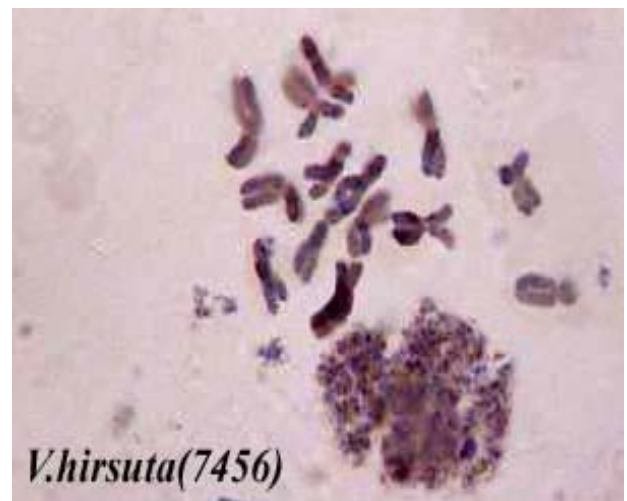
*V.sativa*(7245)



*V.villosa*(7241)



*V.seriocarpa*(7459)



*V.hirsuta*(7456)

*V.ervilia*(1564 )



*V.cracca* (1238)



*V.narborensis* (2042)



*V.villosa*(312)



*V.variabilis*(4804)



*V.michauxii*(4810)



*V.michauxii*(4998)



*V.faba*(5387)



*V.persica*(553)



*V.ervilia*(7075)



(x

)

(*Vicia*)

:

*V.vilLosa*(7241)



*V.satIva*(7245)



*V.hirsuta*(7456)



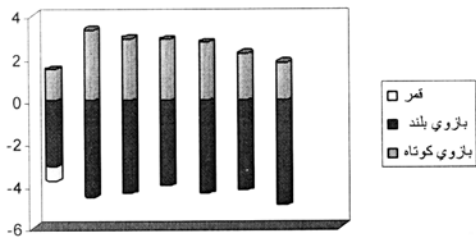
*V.serIocarpa*(7459)



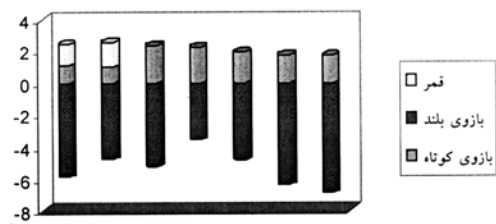
(x

)

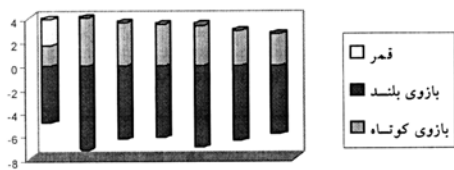
*V. ervilia*(1564)



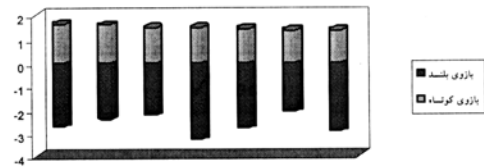
*V. cracca*



*V. narborensis*



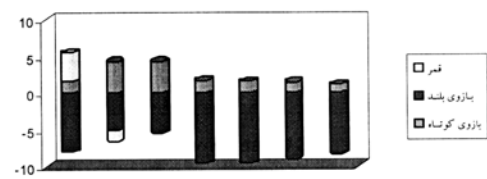
*V. villosa*(312)



*V. variabilis*



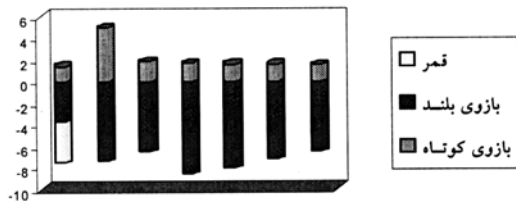
*V. michauxii*(4810)



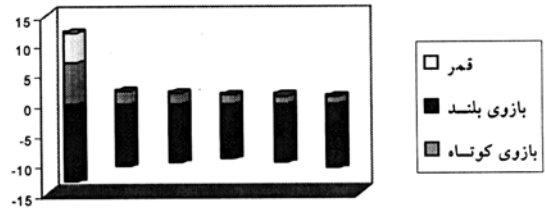
)

(

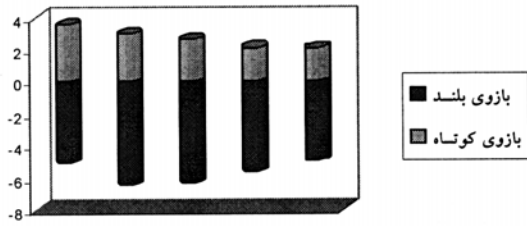
*V.michauxii*(4998)



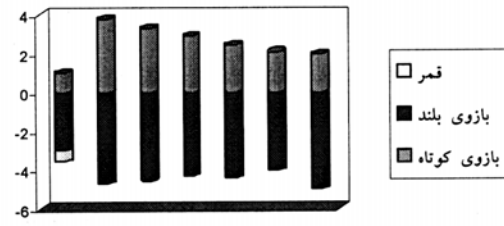
*V.faba*



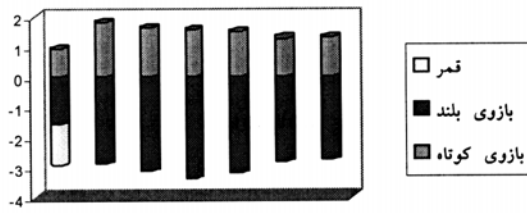
*V.persica*



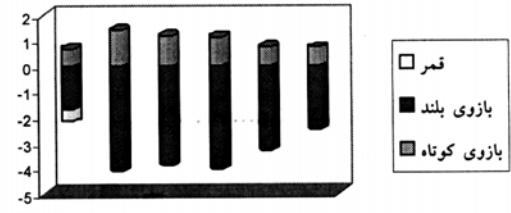
*V.ervilia*(7075)



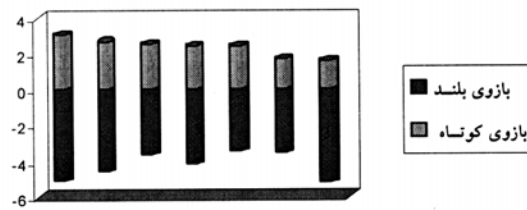
*V.villosa*(7241)



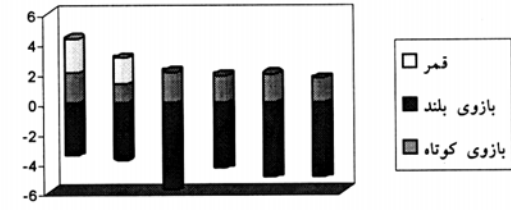
*V.sativa*



*V.hirsuta*



*V.seriocarpa*



Micro measure



(*Vicia*)

:

(*Vicia* sp)

|           | VRC | %DRL | %TF | SC | A | A | X | n |                       |
|-----------|-----|------|-----|----|---|---|---|---|-----------------------|
| m+ sm+ st | /   | /    | /   | A  | / | / |   |   | <i>V. cracca</i>      |
| m+ sm     | /   | /    | /   | A  | / | / |   |   | <i>V. ervilia</i>     |
| sm+ st    | /   | /    | /   | A  | / | / |   |   | <i>V. narbonensis</i> |
| m+ sm     | /   | /    | /   | A  | / | / |   |   | <i>V. villosa</i>     |
| m+ sm+ st | /   | /    | /   | A  | / | / |   |   | <i>V. Variabilis</i>  |
| m+ st+ T  | /   | /    | /   | A  | / | / |   |   | <i>V. michauxii</i>   |
| m+ sm+ st | /   | /    | /   | A  | / | / |   |   | <i>V. michauxii</i>   |
| sm+ st+ T | /   | /    | /   | B  | / | / |   |   | <i>V. faba</i>        |
| m+ sm     | /   | /    | /   | A  | / | / |   |   | <i>V. persica</i>     |
| m+ sm     | /   | /    | /   | A  | / | / |   |   | <i>V. ervilia</i>     |
| m+ sm     | /   | /    | /   | A  | / | / |   |   | <i>V. villosa</i>     |
| sm+ st    | /   | /    | /   | A  | / | / |   |   | <i>V. Sativa</i>      |
| m+ sm+ st | /   | /    | /   | A  | / | / |   |   | <i>V. hirsuta</i>     |
| sm+ st    | /   | /    | /   | A  | / | / |   |   | <i>V. seraiocarpa</i> |

: A = (Intra Asymmetry chromosomal index)

: A = (Inter Asymmetry chromosomal index)

Stebbins : SC (Symmetry Classes)

: %DRL : %TF

:VRC

*V. faba* ( )

M ( / μm)

( / μm) *V. villosa* ( )

%TF

*V. ervilia* ( )

( / ) A<sub>1</sub> ( / )

%TF

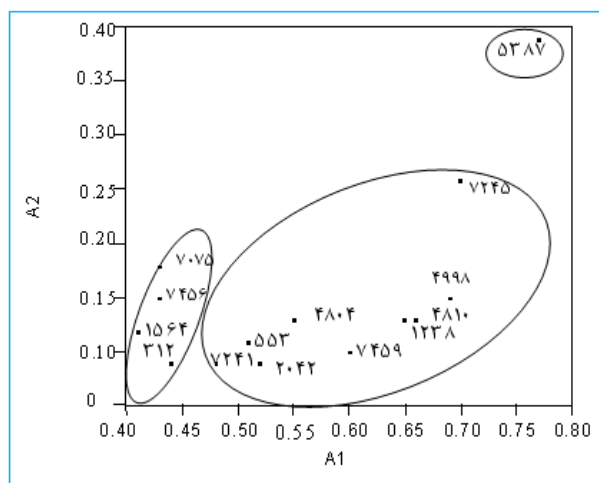
*V. faba*

( / ) A<sub>1</sub> ( / )

( )

A<sub>2</sub> A<sub>1</sub>

( )



A<sub>2</sub> A<sub>1</sub>

( )

A<sub>2</sub> A<sub>1</sub>

*V. faba*

*V.faba*  
*V.ervilia* . *V. villosa*( )  
*V.narborensis* *V.seriocapa*  
*V.michauxii* ( )

(Arm ratio)

*V.hirsuta* *V.ervilia* *V.villosa*  
*V.narborensis* *V.persica*  
*V.faba*  
*V. villosa*( )

$A_2$   $A_1$   
 ( ) Stebbins

B A A

$A_2$   $A_1$

Stebbins

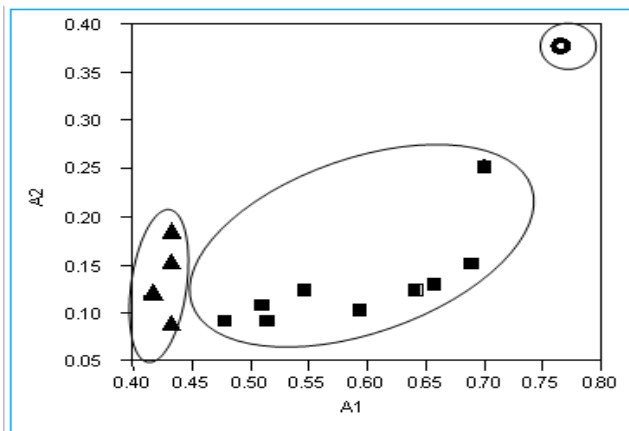
)  $A_2$  DRL

( )

(

)  $A_1$  %TF  
(

*V.hirsuta* *V.ervilia* *V.villosa*



Stebbins

■ ; A

▲

B

● ; A

*V.faba*

*V. villosa*

*V.sativa*

*V. villosa*

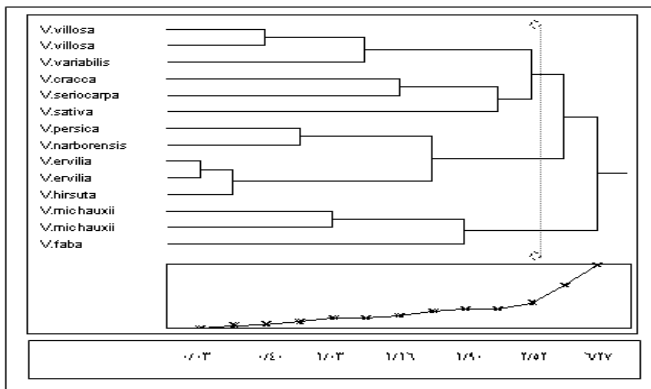
*V.narborensis*

*V.variabilis*

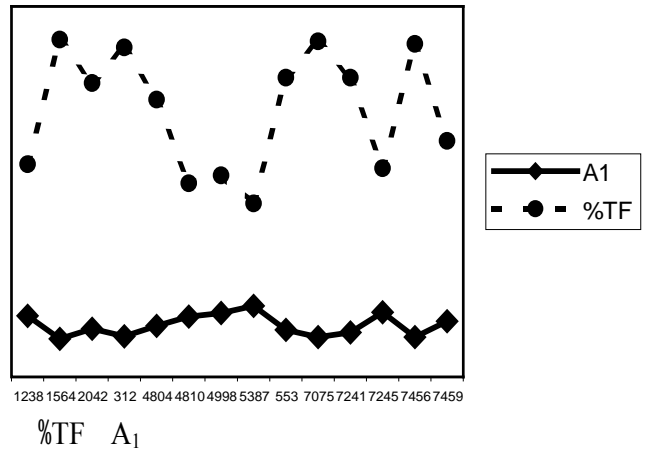
*V. ervilia*

*Vicia*

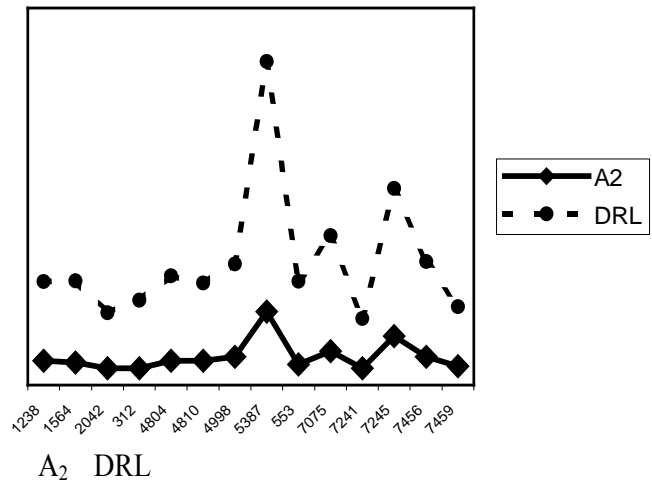
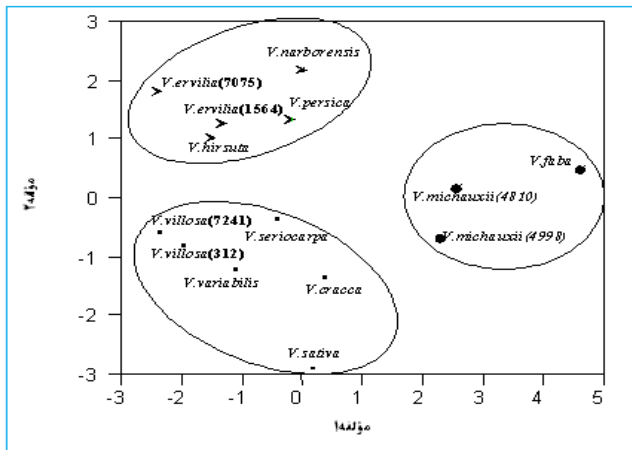
(Vicia)



(WARD)



%TF A<sub>1</sub>



A<sub>2</sub> DRL

*V. persica* و *V. narborensis*

( / ) ( / ) ( / )  
( / ) ( / )

*V.faba* و *V.michauxii*( ) *V.michauxii*( )

( / )

( ) Ward

/

*V.villosa*( )  
و *V.variabilis* *V.cracca* *V.sativa* *V.villosa*( )  
*V.seriocarpa*  
*V.hirsuta* *V.ervilia*( ) *V.ervilia*( )

(%TF )

*V.faba* .



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